

A non-dontact optoelectronic system for an automatic vehicle 1 2 door closure to detect the presence of an obstruction, the system comprising: 3 at least one transmitter for emitting an electromagnetic energy signal; 4 at least one sensor for detecting the electromagnetic energy signal 5 emitted by the at least one transmitter; 6 a control module in communication with the at least one transmitter 7 and at least one sensor for monitoring and processing the signal interrupts detected by the at least one sensor to detect an obstruction between the at least one transmitter and at least one sensor wherein the control module generates a motor control signal to stop and reverse a vehicle door upon detection of an obstruction between the at least one transmitter and at least one sensor. 1 2. The optoelectronic system of claim 1 wherein the control 2 module processes the electromagnetid energy signal interrupts from the at least one 3 sensor by comparing the interrupts against stored values to determine whether an 4 obstruction is present in an entry area of the vehicle. 1 3. The optoelectronic system of claim 1 wherein the entry area 2 of the vehicle is defined by a passage in a vehicle body, a door jamb defining an 3 outer periphery of the passage and a vehicle door selectively positionable between an open position and a closed position adjacent the passage of the vehicle. 4 The optoelectronic system of claim 1 wherein the at least one 1 4. 2 transmitter further comprises a pair of transmitters disposed on an inner surface of 3 the vehicle door.



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5. The optoelectronic system of claim 1 wherein the at least one

sensor further comprises a single sensor disposed on an inner surface of the door

3 jamb.

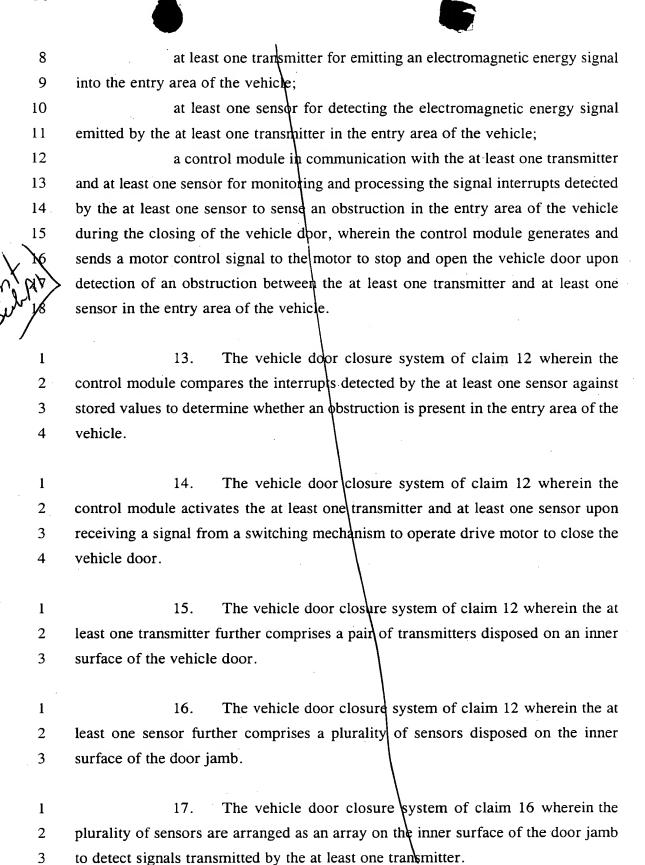
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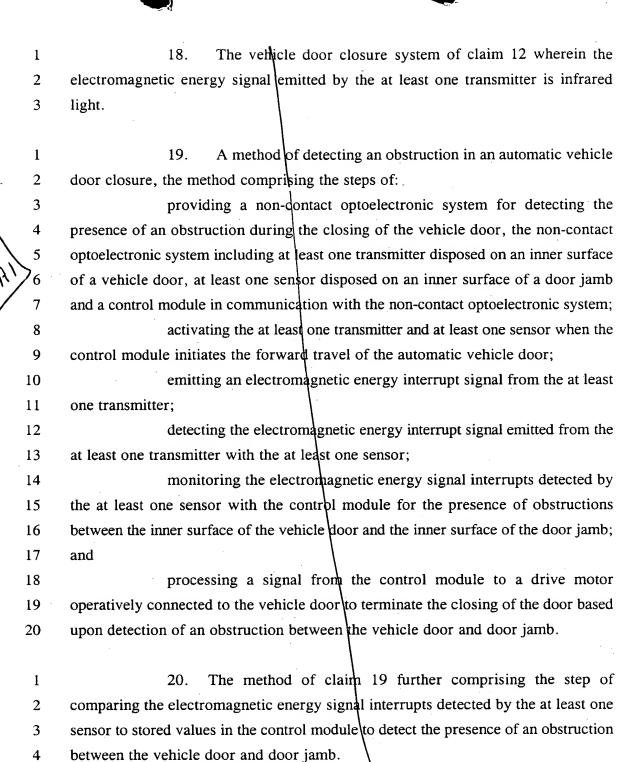
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1	6. The optoelectronic system of claim 1 wherein the at least one
2	sensor further comprises a plurality of sensors disposed on the inner surface of the
3	door jamb.
1	7. The optoelectronic system of claim 6 wherein the plurality of
2	sensors are arranged as an array on the inner surface of the door jamb to detect
3	signals transmitted by the at least one transmitter.
1	8. The optoelectronic system of claim 1 further comprising a first
2	reflective surface disposed on the inner surface of the vehicle door and a second
3	reflective surface disposed on the inner surface of the door jamb to reflect the
4	emitted signal from the at least one transmitter to the at least one sensor.
1	9. The optoelectronic system of claim 8 wherein the first and
2	second reflective surfaces comprise a reflective coating applied to the inner surfaces
3	of the vehicle door and door jamb.
1	10. The optoelectronic system of claim 8 wherein the first and
2	second reflective surfaces comprise a polished metal surface disposed on the inner
3	surfaces of the vehicle door and door jamb.
1	11. The optoelectronic system of claim 1 wherein the
2	electromagnetic energy signal emitted by the at least one transmitter is infrared
3	light.
1	12. An automatic vehicle door closure system comprising:
2	an entry area for a vehicle, the entry area defined by a passage in a
3	vehicle body, a door jamb defining an outer periphery of the passage and a vehicle
4	door selectively positionable between an open position and a closed position adjacent
5	the passage of the vehicle;

positioning the door between an open and closed position;

a drive motor operatively connected to the motor for selectively





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- 21. The method of claim 19 wherein the step of emitting an interrupt signal from the at least one transmitter further comprises emitting an infrared light signal from the at least one transmitter.
- 22. The method of claim 19 further comprising the step of performing a hardware fault detection of the obstruction detection during the opening of the automatic vehicle door.
- 23. The method of claim 22 wherein the step of performing a hardware fault detection of the non-contact optoelectronic system further comprises sending a pulse of infrared light from the at least one transmitter to the at least one sensor to test the optoelectronic system.